

### **REMARKS**

Applicants respectfully request reconsideration of the rejections in view of the following remarks.

#### **Status of the Claims**

Claims 1–23 were pending. Examiner objected to claims 1, 10, 11, 14, and 19 as requiring clarification. Examiner rejected claims 1 and 11 under 35 U.S.C. § 103(a) as obvious over Applicant's Admitted Prior Art ("AAPA") in view of Hyatt (U.S. 4,209,843), and in further view of Bremer (U.S. 4,525,846). Examiner rejected claims 2–5, 7, 9, and 12–18 as obvious over AAPA in view of Hyatt, in further view of Bremer, and in even further view of Aslanis (U.S. 6,359,933). Examiner rejected claim 6 as obvious over AAPA in view of Hyatt, in further view of Bremer, and in even further view of Pal (U.S. 6,353,629). Examiner rejected claims 8 and 19 as obvious over AAPA in view of Hyatt, in further view of Bremer, and in even further view of Kumar (U.S. 5,748,677). Examiner rejected claims 20–23 as obvious over AAPA in view of Hyatt, in further view of Bremer, in even further view of Kumar, and still in further view of Aslanis. Claims 1–23 remain pending.

#### **Claim Objections**

Examiner requested clarification regarding claims 1, 10, 11, 14, and 19, specifically, how a channel symbol is determined from the frequency component amplitudes. As described beginning in ¶ 32 of the specification, the embodiment of Fig. 3 accounts for correlation between frequency domain amplitudes by minimizing an equation that includes the effects of correlation between carriers having different frequencies. As described beginning in ¶ 36 of the

specification, Fig. 4 shows an illustrative embodiment that accounts for correlation between frequency domain amplitudes by applying multi-carrier filters 402-406 that are at least in part determined based on correlation between carriers having different frequencies. As described beginning in ¶ 38 of the specification, Fig. 5 shows yet another illustrative embodiment that accounts for correlation between time-spaced frequency domain amplitudes using delay elements 510-514, multi-carrier filters 512-516, and adders 502-506 and 518-532.

**Rejections Under 35 U.S.C. § 103(a)**

Independent claim 1 stands rejected as obvious over AAPA in view of Hyatt, and in further view of Bremer. Applicants respectfully submit that the prior art of record does not establish a *prima facie* case of obviousness as to the pending claims. According to MPEP 2142, three basic criteria must be met to establish a *prima facie* case of obviousness:

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

Similarly, the fact that the Examiner has the burden of proof with respect to the elements of the *prima facie* case of obviousness is also well defined in MPEP 2142:

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.

The Examiner has not met the burden of establishing the *prima facie* case of obviousness because the prior art of record does not teach or suggest each and every element recited in the pending claims.

Independent claim 1 recites in part: “determin[ing] a channel symbol from the frequency component amplitudes while accounting for correlation between the frequency component amplitudes of the digital receive signal.” Independent claims 11, 14, and 19 recite similar limitations. In each rejection, Examiner cites Hyatt at col.230 ¶.54–61; Fig.3A; col.42 ¶.26–42 as well as Bremer at Fig.4 ref.140; col.2 ¶.47–54 as allegedly teaching the quoted limitation. However, at the cited location, Hyatt teaches a schematic notation:

Description of Fig. 3 . . . A schematic notation will be defined to illustrate signals in a form that more clearly exemplifies the present invention. . . . Therefore, a schematic signal notation will now be described with reference to FIG. 3A . . . . A multiplexed signal 315 may be shown in schematic form by . . . . Correlation output signals may be represented by . . . . A schematic notation is used for correlation output signals such as signal 316 . . . .

Hyatt col.41 ¶.1, 24–26, 29–31; col.42 ¶.1–4, 32–34, 42–48.

A schematic notation fails to teach or suggest determining a channel symbol from the frequency component amplitudes while accounting for correlation between the frequency component amplitudes of the digital receive signal.

Also, at the cited location, Bremer states “[t]he correlator/accumulator 150 continuously correlates the amplitudes of the last N received symbols. The value so obtained is then compared to a threshold value in order to determine the data appear [sic] at data output B.” However, such language also fails to teach or suggest the quoted limitation. Specifically, comparing purposely correlated signals to a threshold value fails to teach or suggest accounting for correlation between the frequency component amplitudes.

Furthermore, no other art of record teaches or suggests the quoted limitation. For at least these reasons, independent claims 1, 11, 14, and 19, along with dependent claims 2-9, 12-13, 15-18, and 20-23 are allowable over the cited art.

**Conclusion**

In the course of the foregoing discussions, Applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art which have yet to be raised, but which may be raised in the future.

It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Conley Rose, P.C. Deposit Account Number 03-2769/1789-04801/HTDC.

Respectfully submitted,

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